

Swisscom: Variable Network Expansion with R&Mfoxs ODF



Generational change in the FO network. Swiss telecommunications group Swisscom is introducing new optical distributors in the core network: R&Mfoxs ODF. The new platform gives Swisscom ideal planning freedom.

«When we install a distributor in a head office today, we are faced with the specific needs of an initial installation. But we don't know what new requirements are going to come along later,» says Hansjörg Weimer, Technical Manager and ODF Evaluation Project Lead at Swisscom (Switzerland) AG, of the initial situation. It could be that additional breakout

cables will be used later or that fibers have to be subsequently spliced. Additional splitters, single-fiber or multi-fiber connectors may have to be installed for new services.

Because the future is so open, Swisscom's planners and assembly teams want more flexibility. They want to be able to extend

«I value R&M as a reliable, innovative and stable partner long term with a top-quality product range that meets market requirements. We enjoy constructive, target-oriented support and consulting services from expert employees in all our projects.»

Hansjörg Weimer, Technical Manager and ODF Evaluation Project Lead, Swisscom (Switzerland) AG

or re-organize FO distributors in the core network to whatever extent that is required at any time. Hansjörg Weimer explains: «For us modularity means that we procure a distribution frame today and part-assemble it, and that we can then add other sub-racks and plug-in units later whenever we need to. And that is something that simply isn't the case with the old distributors.»

That is why Swisscom was looking for a new generation of distributors for its head offices. The company envisaged as simple a basic construction as possible that could quickly be adapted to both current and future scenarios – with low port costs. All network expansion variants should be easy to implement.

The national core network, the backbone of all Swisscom services, has consisted almost exclusively of FO cabling for more than 30 years. These basic fiber-optic infrastructures will continue to gain in significance. Business clients, data centers, cellular phone networks, remote head offices and Swisscom's rapidly growing access networks (FTTH, FTTS, FTTB etc.) will increasingly put a strain on the core network. And variable expansion has to be ensured because this is how Swisscom can guarantee fast broadband data transmission over large distances anywhere and at any time.

In the search for a new, modular distribution platform, Swisscom did not only want



to rely on technical descriptions, service catalogs and prices. Numerous stakeholders in the company were asked to define their requirements and technical specifications were created on this basis. Swisscom spent two months testing suitable products from several suppliers.

Port costs optimized

The R&Mfoxs ODF came out on top in the overall examination of commercial and technical requirements, in accordance with the technical specifications, costs and practice test results. This means two fundamental changes for Swisscom: flexibility because the R&Mfoxs ODF offers more possibilities in terms of connector and module selection. Secondly, lower costs per port, something customers will benefit from in the form of favorable prices.

Once the telecommunications group had decided on the R&Mfoxs ODF, Swisscom and R&M prepared the generational change together. Some components were adapted

Comprehensive evaluation process at Swisscom

As part of its evaluation of a new distribution platform, Swisscom assessed more than the technical data. Select products from five manufacturers were subjected to a two-month practice test in Zurich.

The test team was composed of internal and external installers, splicers and field service employees. The team assembled and equipped the racks, at times under extreme time pressure. This included the:

- splicing of underground cables
- insertion of breakout cables
- connecting of patch cord connections
- monitoring of assembly processes
- evaluation of the degree of modularity

The evaluation team gave the test assemblers a questionnaire that had to be completed in detail. This ensured a wide range of information for further evaluation. Using the test results, they could also estimate how much work the platform generates – an important factor when it comes to operating expenses.

The R&Mfoxs ODF cut a convincing figure in particular because of its modular principle and intuitive assembly technology. All areas

of work are easily accessible. Once assembly has been completed, everything is fixed at the right place. There are no fiber movements, a factor which increases operational reliability. The test installers rated this very highly. Technical Manager Hansjörg Weimer describes the material used in the R&Mfoxs ODF as high-quality and fit for purpose. The price-performance ratio also corresponds to expectations.

As Weimer says: «With the R&Mfoxs ODF, we are getting a considerably more modular system than we have been using to date. It means we can use cables and connectors much more precisely. The lower costs per port and the simple handling reduce investments and operating expenses, something our customers benefit from. With fundamental questions such as the evaluation and launch of new infrastructure products, we feel it is worthwhile to subject the products to in-depth practice tests in as realistic an environment as possible. Only then are the challenges and costs in everyday business clear. Infrastructure products are implemented long term and incur operating costs over a long period. You have to try to determine and compare these as precisely as possible.»

and standardized to suit Swisscom's desires. R&M defined the specific ordering and logistics processes. Racks and modules can be delivered as soon as they are required. Furthermore R&M offers training sessions and provides an installation manual as well as other documentation. Installers can call up the documentation digitally using the QR codes on the racks.

The plan long term is to equip more than 900 sites throughout Switzerland with the R&Mfoxs ODF. The distributors will be in operation for several decades. Installation commenced in the summer of 2018.

The pilot project in Zug

Swisscom equipped its Central Office (CO) in Zug first with the new R&Mfoxs ODF. The distributor is used as a classic ODF. This is where all



underground cables in the core network end. This is where the connections to other COs, data centers, mobile communication antennas, primary transfer points and the direct cables to business customers are. Furthermore, Swisscom switches internal connections to proprietary equipment or to the equipment of collocation partners over the ODF.

At the Zug site, around 3,000 outdoor cable fibers had to be re-spliced. Added to this there were around 1,000 fibers from internal trunks to switching devices, collocation partners, mobile communication antennas as well as trunks to the FTTX network.

The basis of the R&Mfoxs range introduced by Swisscom includes 180 and 220 cm high open R&Mfoxs ODF distribution platforms. In Zug's central mail office, there are currently six R&Mfoxs ODF 220cm in use, equipped in various ways.



Left: Hansjörg Weimer, Technical Manager and ODF Evaluation Project Lead, Swisscom (Switzerland) AG; right: Roger Albisser, Technical Lead for the Central Region, Network Site Management, Swisscom (Switzerland) AG



Markus Steinmann | R&M Switzerland
markus.steinmann@rdm.com